IN THE CLAIMS:

Please cancel Claim 12.

Amend as follows:

3. A process according to Claim 1 characterized in that the radical-producer is chosen so that the radical-producer(s) initiate polymerization and do not react in a detrimental fashion with the transition metal compound.

4. A process according to Claim 1 characterized in that one or more transition metal complex cation forming compounds or coordination complex compounds are used as co-catalyst, chosen from the group of strong, neutral Lewis acids, ionic compounds with Lewis acid cations or Broenstedt acid cations and non-coordinating anions.

7. A composition according to Claim 5 characterized in that the radical-producer is a peroxide, a diazo compound or a mixture thereof.

8. A composition according to Claim 5 characterized in that one or more compounds chosen from the group of strong, neutral Lewis acids, ionic compounds with Lewis acid cations or Broenstedt acid cations and non-coordinating anions are used as co-catalysts.

9. A composition according to Claim 5 characterized in that the transition metal compound is chosen so that the transition metal compound, optionally in the presence of a co-catalyst, can reversibly form a complex with a radically growing polymer chain and non-polar monomers can be inserted into the bond formed in this way between transition metal and polymer chain.

10. A method of using the composition according to Claim 5 comprising catalyzing the polymerization of copolymers.

11. Copolymers which have a statistical distribution on the molecular level prepared in a process according to Claim 1.

Add the following:

13. A process for producing a copolymer comprising polymerizing at least one polar monomer and at least one non-polar monomer in the presence of one or more compounds of transition metals of groups 5 to 10 of the Periodic System according to IUPAC 1985 and one or more radical-producers.

14. The process of Claim 13 wherein the polymerizing is in the further presence of one or more co-catalysis.

15. The copolymer prepared by the process of Claim 13.

16. A composition containing one or more transition metal compounds from groups 5-10 of the Periodic System according to IUPAC 1985 and one or more radical-producers.

17. The composition of Claim 16 further containing one or more co-catalysts.

18. The composition of Claim 16 wherein the transition metal a member selected from the group consisting of vanadium, chromium, manganese, iron, cobalt, nickel, ruthenium, rhodium and palladium.

19. The composition of Claim 16 wherein the radical-producer is at least one member selected from the group consisting of peroxide and a diazo compound.

20. The composition of Claim 17 wherein the co-catalyst is selected from the group consisting of strong Lewis acids, neutral Lewis acids, ionic compounds with Lewis acid cations, ionic compounds with Broenstedt acid cations, and non-coordinating anions.

21. A method of using the copolymer of Claim 15 comprising preparing a molded article.

22. A method of using the copolymer of Claim 15 comprising preparing an adhesive.